PMS41
ONE-YEAR COST OUTCOMES OF EARLY PHYSICAL THERAPY (PT) COMPARED WITH A USUAL CARE APPROACH FOR PATIENTS WITH ACUTE LOW BACK PAIN (LBP) CONSULTING PRIMARY CARE
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OBJECTIVES: Guidelines for primary care management of LBP in primary care recommend an initial period of watchful waiting before referral to PT. Some evidence suggests early PT may reduce future health care costs for LBP. This study compared LBP-related costs over a 1-year period in patients with acute LBP randomly assigned to usual care versus early PT. **METHODS:** Adults (age 18-60) visiting primary care with acute, non-specific LBP were recruited. All participants received advice and education about LBP and were randomized to 4 PT sessions or watchful waiting for 4 weeks. Clinical outcomes and LBP-related costs were collected monthly for 1 year after enrollment using online diaries of health care utilization and work loss due to LBP. **RESULTS:** 196 participants were included of which 101 received early PT and 95 usual care. Mean age was 37.5 years (+10.5) and 106 (54.1%) were female. Mean baseline Oswestry disability score was 40.4 (+13.0) and numeric pain rating was 5.0 (+1.8). There were no differences between treatment groups for these characteristics or race/ethnicity, marital status, body mass index, smoking status, or medications prescribed at baseline. Repeated measures ANOVA found a significant group * time interaction for the outcome of pain ($p<0.028$) across 1 year, but by the end of 1 year the early PT experienced a mean 0.31 points greater pain relief. Mean total LBP-related costs over the year were $1,581 for early PT and $915 for usual care (mean difference $666, $p=0.067$). The incremental cost-effectiveness ratio was $2,149 per 1 point of pain intensity reduction per patient. **CONCLUSIONS:** Early PT showed small benefits in pain reduction across 1-year. The incremental cost effectiveness ratio may exceed willingness to pay thresholds.

PMS42
BLOOD LOSS AND ECONOMIC BURDEN COMPONENTS OF SPINAL FUSION SURGERY IN ADOLESCENT SCOLIOSIS AND ADULT DEFORMITY
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OBJECTIVES: Despite advances in hemostasis techniques, spinal fusion procedures result in significant blood loss and are associated with extensive post-surgery complications. This study aimed to evaluate blood loss levels and its role in the economic burden of spinal fusion surgery. **METHODS:** A comprehensive literature review was conducted to evaluate the blood loss levels and economic burden of spinal fusion procedures for adolescent scoliosis (AS) and adult deformity (AD). In total, 75 articles were reviewed to collect blood loss and cost components such as operating (OR) time, blood loss, hospital length of stay (LoS), and transfusion needs. Costs of pre-surgery care, surgical devices, and other surgical consumables were excluded from the analysis. **RESULTS:** Blood loss in spinal fusion surgery was found to be in the 0.6 - 2.6L range depending on population and clinical setting. Patients required 0.6 to 1.0 units of transfused blood, with varying levels of red blood cells, plasma, and platelets needed. The bulk of the economic burden of spinal fusion was due to utilization of hospital resources including OR time, LoS, and management of surgical side infection (SSI), with transfusion and anesthesia costs also contributing. OR time ranged from 2.7 hours in adults to 6.5 hours in adolescents. Post-operation LoS was in the 3.8 - 8 day range and was strongly correlated with blood loss-related complications. Furthermore, with a mean cost of $23,860 per case and an incidence of 5.6%, SSI was noted as an uncommon but high-cost risk of spinal fusion. These components of economic burden add up to mean per-patient costs of $15,990 for AD patients and $12,647 for AS patients. **CONCLUSIONS:** Although surgeons currently use various tactics to manage blood loss during spinal fusion procedures, including electrocautery, blood transfusion, and topical hemostatic agents, blood loss and economic burden remain significant.

PMS43
EVALUATING CLINICAL AND ECONOMIC OUTCOMES ASSOCIATED WITH LIPOSOMAL BUPIVACAINE (LB) FOR POSTSURGICAL PAIN FOLLOWING TOTAL KNEE ARTHROPLASTY (TKA)
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OBJECTIVES: In response to increasing demand and limited resources, hospitals are exploring more efficient methods to perform TKA. The objective of this study was to examine the clinical and economic outcomes associated with using local infiltration of LB to manage postsurgical pain following TKA. **METHODS:** This study compared 134 consecutive patients whose postsurgical pain following TKA was managed using local infiltration of LB (study group) to 134 historical patients who received continuous nerve block with elastomeric pumps (control group). Groups were matched on clinical and demographic variables, including age, gender, race, and comorbidities, and sample size was based on estimated effect sizes. Outcomes examined included use of postsurgical opioid and non-opioid analgesics, time to ambulation, distance walked, pain scores, adverse effects, length of stay (LOS), discharge status, and total hospital costs. **RESULTS:** Significantly more patients in the study group (22%) were able to ambulate on the day of surgery than in the control group (3%) ($p<0.05$). The study group had more patients discharged in 3 days or less (50%) than the control group (19%) ($p<0.05$), and had a shorter mean LOS (2.8 ±1.7 days vs. 3.2±1.6 days). Total hospital costs were $366 less in the study group ($8,816/patient) than in the control group ($9,182/patient), which was mainly attributed to differences in the cost of room and board ($1,449 vs. $1,721, $p<0.05$). After multivariate regression, adjusted cost savings in the study group were $457/patient ($p<0.05$). No differences were found between in pain scores, opioid analgesic use, adverse events, or 30-day readmissions. **CONCLUSIONS:** When comparing well-matched patients undergoing TKA, significantly better clinical and economic outcomes were found using local infiltration of LB rather than continuous nerve block with elastomeric pumps to manage postsurgical pain.

PMS44
A SYSTEMATIC LITERATURE REVIEW OF THE COST-EFFECTIVENESS OF ERYTHROPOIETIN IN ORTHOPEDIC SURGERY: THERE IS A NEED FOR DIFFERENTIATION BETWEEN TOTAL HIP AND KNEE ARTHROPLASTY
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OBJECTIVES: Erythropoietin has been widely adapted into clinical practice in orthopedic surgery to prevent anemia and ultimately lower the use of allogeneic blood transfusions. Its safety and efficacy has been shown in various randomized clinical trials. Questions regarding the cost-effectiveness of this treatment, however, have yet to be answered conclusively. Notably, current indication guidelines are based on preoperative hemoglobin levels, but do not differentiate between total hip arthroplasty (THA) and total knee arthroplasty (TKA). This literature review aims at analyzing the cost-effectiveness of preoperative erythropoietin as blood sparing measure in patients undergoing elective orthopedic surgery, specifically THA and TKA. Additionally, patient inclusion criteria are analyzed in order to identify the potentially most cost-effective patient subgroups, e.g. based on preoperative hemoglobin levels, primary or revisional surgery and THA versus TKA. **METHODS:** Systematic literature review. **RESULTS:** A MEDLINE database search and subsequent exclusion of irrelevant or inaccessible papers resulted in the inclusion of 8 research articles that at least partially performed a cost-effectiveness or cost-benefit analysis of erythropoietin in orthopedic surgery. Four of the studies concluded erythropoietin is not cost-effective, three studies were not able to draw a conclusion based on their data, and one study found erythropoietin cost-effective. **CONCLUSIONS:** We found that studies were difficult to compare, with inclusion criteria and comparators varying among studies. Notably, most economic evaluations were substantially lacking depth and did not comply with common guidelines for pharmacoeconomic research. Although some articles found erythropoietin generally not cost-effective, their data did suggest otherwise within certain patient subgroups. Patients with lower preoperative hemoglobin levels, primary surgery and THA benefitted the most from erythropoietin. Additionally, most studies seemed to overestimate treatment costs, using outdated prices or neglecting competitively priced biosimilars. Therefore, a more differentiated approach is required to elucidate the cost-effectiveness of erythropoietin in orthopedic surgery, discriminating between total hip and knee arthroplasty.

PMS45
RESULTS OF THE INCLUSION OF NEW MEDICATIONS IN THE OBLIGATORY HEALTH SYSTEM PLAN IN COLOMBIA, 2012-2013
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OBJECTIVES: The Colombian Health Care System has had a plan with limited benefits, but since 2012, 57 drugs have been added to this plan. This research describes the trends of utilization and costs of medications covered by the Agreement 029/2011 and compare them with those that were contained in the benefits plan. **METHODS:** A descriptive study involving a group of 3.8 million people affiliated with the Colombian Health Care System, in 110 cities from July 2011 until June 2013. The variables were: new medications that were included, comparing them with homologous medications that were already in the plan, age, sex, dispensed quantities, and monthly billing. The study established the defined daily dosage per thousand inhabitants and day (DID), cost per thousand inhabitants and day (CID), cost per capita (CPC) and the rate of adoption or replacement medicines. **RESULTS:** The growth in consumption of new medications was 830.0%. The DID grew from 4.3 to 42.9 with an increase of 905.5%. The medications with the highest growth were losartan/hydrochlorothiazide (15723%), esomeprazole (4193%), atorvastatin (1402%) and sertraline (298%). There was an increase in costs of US$16.40 in CID, which is equivalent to an increase of 61.7% and represents a rise of US$0.49 CPC per month. **CONCLUSIONS:** The consumption behavior of new medications and the economic implications for Colombia can be demonstrated. In particular, the growth of consumption of medications for chronic diseases can be seen, which would represent an increase to the entire population of the country of US$22.6 million per month.

PMS46
THE ECONOMIC VALUE OF TOFACITINIB 5 MG BID IN THE TREATMENT OF MODERATE TO SEVERE RHEUMATOID ARTHRITIS: A CANADIAN ANALYSIS
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OBJECTIVES: As new medications enter the market for rheumatoid arthritis (RA), economic evaluations of medications provide critical information for assessing cost effectiveness. The study objective was to estimate incremental cost per quality-adjusted life year (QALY) of tofacitinib 5mg BID, a new treatment for moderate to severe RA after inadequate response to methotrexate, compared to available/recommended treatment strategies as of 2014 using the Canadian 3rd-party-payer perspective and lifetime time horizon. **METHODS:** The cost utility model is an individual patient simulation through a Markov-like model. The model compares treatment strategies reflecting 2012 Canadian Rheumatology Association recommendations for the pharmacological management of RA. Tofacitinib was included in the treatment algorithm similar to the anti-TNFs. Efficacy was measured using the continuous variable of Health Assessment Questionnaire Disability Index (HAQ-DI)